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ABSTRACT

The realization that a substantial segment of Canadian society could participate in a college education only if barriers of time and distance were removed led to an emphasis upon the concept of distance education as a necessary and desirable component of the programming of a community college. Recently, however, critics have argued that the comprehensive, but conventional, community college is structurally unable to adapt to the wide diversity of learning needs in the community, a point of view which invites debate on the feasibility of distance education as a component of college education. There are several dimensions to this issue, including those related to: (1) the mandate of the community college to serve the educational needs of rural and urban populations in designated areas within certain financial constraints; (2) the comprehensive nature of the community college curriculum; (3) the organization of distance education (e.g., the integrated model, dual mode model, and single mode specialist institution); (4) coordination of effort; and (5) instructional methods. Across the 10 provinces, activity within the colleges with respect to distance education has been somewhat limited, although several factors are contributing to increased involvement in this field, including government support and greater availability of course material. Among the many and varied experiments in distance education currently found in Canada's community colleges, one notable case is North Island College on Vancouver Island, which has adopted an open learning methodology involving correspondence courses, mobile instructional resources, and a variety of technical support materials and delivery systems. Distance education in creative formats under imaginative and cooperative planning will assuredly become a regular supplement to classroom instruction in the eudcational future of Canada's colleges. (EJV)

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Distance Education and the Community College

- Some Questions of Theory and Practice -

by

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The University of British Columbia

July 1986

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Community Colleges and Distance Education

Before any discussion of the issue of distance education within the community college milieu could be productive, it is first necessary to examine the role and mandate of a college in a social organization within the Canadian context. Unfortunately, this is no easy task. All ten provinces sustain post-secondary educational institutions distinguishable from, and often alternative to the more traditional universities and technical institutes. The titles of such institutions vary among the regions and include "college" (in British Columbia, Newfoundland, Prince Edward Island), "community college" (in Alberta, Saskatchewan, Manitoba, and New Brunswick), "College d'Enseignment General et Professional" (in Quebec), and sometimes "Institute" (in several provinces, including Nova Scotia).[1]

Just as their descriptive titles vary, the institutions also assume a wide range of mandates, curricular designs, governing structures, and relationships with their provincial ministries, which to a large extent reflect the historical, socio-cultural and economic conditions of the provinces in which the colleges developed. However, it is also possible to identify a number of significant characteristics which they share. In general, all such institutions were created in a period when the provision of greater access to educational opportunity beyond secondary school was regarded as a high priority within social policy. Consistent with this priority, the colleges adopted an

open admissions policy designed to remove barriers to those individuals traditionally denied further education, be such barriers economic, geographic, bureaucratic, academic or psychological. Further, colleges often sought to increase access by dispersing educational opportunity throughout the wider community by establishing satellite campuses with modest facilities and by offering courses within a part-time, evening and weekend schedule.

Many, although not all, colleges were responsible to and for defined regional constituencies, or communities, for which they were expected to serve as cultural and educational resource centres. The community orientation of these colleges was reinforced through regional representation on their governing and advisory bodies and in their direct responsiveness to the employment needs of community businesses and industries. It is of further significance to recall that most college systems across the country were all created and evolved into relative maturity within a fifteen year period between 1960 and 1975. These were the "golden" years for post-secondary educational development in Canada. They were times of unbounded faith in the value of further education, and governments, enjoying relative economic buoyancy, gave priority to growth and expansion of both traditional universities and new designs in alternative institutions of higher education.

The key to government initiative at the time was the much quoted notion of accessibility and its associated theme, the "democratization" of higher education. In 1960 there were two institutions which might be regarded as public community colleges. By 1980 the number of such institutions had reached 125.[2]

It was not long, however, before unresolved limitations on accessibility to a college education became a subject of debate within educational circles (Anisef, 1983). While the success of the new institutions in broadening the base of participation in higher education was acknowledged, it also became increasingly evident that colleges provided educational opportunity for an essentially conventional clientele--i.e. those students who could participate in face-to-face instruction, albeit on extended schedules and often in satellite facilities.

Much of the thrust of new concerns over the question of access has been summarized by Forsyth (1983) in the following quote....

> The notion of a comprehensive community college should be modified and give way to that of a comprehensive community college education. Rather than planning around the traditional comprehensive campus, future efforts need to be directed toward a community system for delivering a comprehensive post-secondary education. The traditional campus should become just one part of this system, complemented by other means (such as media) which do not require the continual presence of instructors and also by neighbourhood satellites, storefront operations, mobile units, limited-purpose centres, work experience, co-operative education, credit by examination or for previous extra-collegiate experience, community library resources, and other community facilities in whatever combination provides access in the most efficient manner. (p. 5)

Inevitably, the realization that a substantial segment of society could participate in a college education only if barriers of time and distance were removed, led to an emphasis upon the concept of distance education as a necessary and desirable component of the programming of a community college.[3]

In a particular sense, distance education has become part of a revised concept of access to further education as one dimension of the social policy of the nineteen eighties.

But new critics have addressed the narrow focus of "distance" education as a method of program delivery in the community college sector. While the concept is attractive in itself, implying new ways and new technologies for serving students who cannot, or choose not, to participate in face-to-face instruction, to such critics it misses the real point of the policy, which is to focus attention upon the learner, rather than the instructional format.

Crawford (1983) summarized this concern in College Canada:

> By making the individual the focus of attention, rather than the institution, its delivery system, or its staff; and by deemphasizing the time and location of learning, a new start is possible and is required by the new demands facing post-secondary education. By emphasizing the individualization of instruction rather than the delivery methodology, be it distance education or exotic information technologies (however attractive they may be as 'bait' for special funding!), a number of advantages accrue for both on and off campus applications. (p. 9).

Wing (1983) suggests that the primary emphasis in the matter of program delivery should revolve around the notion of "open learning". This latter

concept should be distinguished from distance education in that the focus is upon how a learner may access formal education in a manner consistent with his learning style and living conditions. It implies that learning opportunities should be available to all individuals, despite traditional obstacles, among which distance from the classroom is only one. Wing also warns against the fallacy of perceiving distance learning and conventional classroom instruction as dichotomous entities rather than poles at opposite ends of a continuum of learning styles, in which the prospective students will choose their own position according to personal limitations of time, place, program or technology available.

Wing, among others,* argues that the comprehensive, but conventional, community college is structurally unable to adapt to the wide diversity of learning needs in the community, a point of view which invites debate on the feasibility of distance learning as a component of college education. There are several dimensions to this issue, some of which follow.

The mandate of the community college

As noted earlier, most colleges in Canada were constituted to serve the educational needs of populations in designated regions. While some of the latter comprise large urban areas, many colleges attempt to meet the needs of widely dispersed rural communities with sparse population densities. For these colleges the issue of economies of scale must become an overriding consideration in the production of course materials to be used in any distance education format.

Quality courses are expensive to produce. Their writing demands a high level of expertise and a further time consuming process of testing and

verification to determine their suitability for effective learning at a distance. Also, most courses have a limited life span before requiring updating and revision. To justify the initial costs of production student enrolment in distance learning courses must be of a magnitude unlikely to be met in most college populations.

It is possible that several colleges might enter into a consortium arrangement with like institutions to pool their collective expertise and share the production of a range of courses for general use. While such arrangements are appropriate among universities, with their extensive resources, most colleges would have limited budgets to devote to such activity. However, as described later in this essay, a number of Alberta's colleges have adopted individual specializations in the production of course material in the health sciences and business areas.

Notwithstanding the foregoing, the colleges' mandate is to meet the learning needs of all residents of their communities, not simply those able to commute to the campus. Distance learning provides additional access to students limited by a range of obstacles.

However, the problem of course production is one matter, delivery is quite another. Large numbers of quality courses suitable for distance learning are now available from established distance education institutions, Canadian and foreign, which may be purchased by colleges on a carefully selected basis. Nevertheless, as several such institutions are designed to serve the needs of the entire province, the question of duplication becomes an inevitable issue. Clearly, it makes little apparent sense for colleges to be in competition with provincial organizations for a limited student clientele. The issue of consortia arrangements, as a form or organization, will be addressed later in this paper.

There are other considerations, however, which are relevant. Colleges know their communities, and vice versa. Many students choose learning opportunities, albeit by distance, with organizations which they perceive as closer and more responsive than a provincial institute located at a considerable distance. The local college often has a familiar name and a familiar voice.

Another factor is the capacity of colleges to supplement distance learning with face-to-face instructional or tutorial support through mobile learning units. Several combinations of such learning arrangements provide students with opportunities available only through the initiative of local colleges.

The Comprehensive Curriculum

A second obstacle to the adoption by colleges of distance education methods is the nature of the curriculum. Colleges have adopted a greater or lesser degree of comprehensiveness in their curricula, to which academic, technical, technological, vocational upgrading and credit-free community education courses all contribute.

To introduce open learning (including distance education) methodology into such a wide diversity of curricular offerings is a formidable task. While many aspects of the humanities and social sciences have long been available as "correspondence" courses using essentially print media, laboratories and other clinical activities have limited the availability on a distance format of the sciences, pure and applied. The challenge is even greater with technical-vocational and adult basic literacy programs. In this context it is significant to note the innovative approaches by the Open Learning Institute in British Columbia, and by North Island College in the same province, both of

which having developed distance based programs in all curriculum areas, albeit in different formats.[5]

Are there any college programs which cannot be offered in a distance learning format? With some caveats, and in the light of rapid technological advances, the answer is probably no! The highly practical clinical, laboratory or workshop experiences, so integral to programs such as dental assisting, heavy duty mechanics or advanced chemistry, can and are made possible through arrangements with other institutions and industrial/business settings located near the students' homes. Technical aids such as audio and visual cassettes, micro-processors and audio-graphics allow for quality learning experiences in activities ranging from adult basic literacy to senior years in baccalaureate programs. Of interest in this context is the system reported by Tolley (1983) concerning Britain's Open Tech.

Despite all of the foregoing, the assumption that colleges have almost unlimited curricular jurisdictions makes broadly based adoption of distance education a challenge of some magnitude. It is more realistic to explore the notion of colleges playing a "broker" role in the delivery of distance education programs which emanate from more specialized sources.

Organization

The organization of distance education within provincial jurisdictions and individual colleges varies, with a few institutions choosing an integrated model, most opting for a dual mode model, and some provinces choosing to set up single mode specialist institutions. The choice of organization type is a crucial philosophical issue that determines the level of priority distance education will have in the institution.

In the integrated model responsibility for all aspects of distance education is distributed among those academic divisions or departments choosing to use distance education as an instructional mode. Typically, the continuing education section within the academic group is given functional responsibility for coordinating the academic part of the distance education services with registration and other student services being handled by the same institutional staff who process continuing education students. The argument in favour of this model is that distance education is an instructional mode that individual faculty or departments can elect to use and academic standards are best maintained by keeping control within the departments.

The dual mode of organization is the model most commonly found in Canadian colleges and, indeed, in most institutions around the world. The addition of a distance education service to established organizations parallels the addition of a continuing education function. The two main variations of the model are to have a distance education unit that functions virtually as a parallel institution, having its own administrative systems and staff, or to have a separate coordinating group that cooperates with academic and service departments to operate its own and other departments' distance education programs. A notable exception to this model is North Island College in British Columbia which elected to start primarily as a distance education institution, adding conventional classroom instruction when student numbers were large enough in various communities.

The single mode institution, such as the British Columbia Open Learning Institute, is totally dedicated to distance education and is usually the result of a provincial policy to focus distance education within a single provincial institution.

At issue in the selection of an organization model are advocacy for distance education students and the location of power and authority within the institution. In integrated institutions, responsibility for distance education is decentralized to academic units and advocacy is fragmented. Organizational adaptations to meet the unique needs of distance education students are rare, since the priorities of the operating units are to deal with highly visible full-time on-campus students. In institutional units established specifically to handle distance education students' needs, if power exists to set up separate operating systems, administrative processes usually adapt to place the students' needs ahead of those of the organization, and the unit becomes the institutional advocate for the distance education student. The more control allocated to the distance education unit, generally the fewer problems the student has with the organization and the more "open" are the institution's administrative systems.

Typical types of problems distance education students encounter in traditionally organized institutions are inflexible admission and completion schedules, fewer library and consultation services, discriminatory fees, asterisked credits, residency requirements, restricted programs, and communication barriers. For many students, such institutions are effectively closed, even though they advertise the availability of distance education programs.

Coordination

Coordination of effort in distance education is seen to be of sufficiently high priority that the four western provinces in Canada have made a formal agreement to share distance education materials and expertise. Several factors

contribute to the perception that resource sharing is a desirable if not necessary condition for building a good distance education system.

First, high profile televised distance education courses, such as those produced by the British Open University, do require resources usually beyond those available in a single institution. Also, the time required to produce a single telecourse can exceed several years, making the production of sufficient courses for even a small part of a degree or diploma program an almost impossible undertaking unless a consortium is involved. Fortunately, the majority of effective distance education courses do not require the financial and time investments of large budget telecourses. Even within the telecourse category, very effective and attractive low budget courses have been made fast enough to have a useful number available at the producing institution. Seneca College in Ontario is a notable example of such a production model. Keeping in mind that over 80 percent of the instruction in good distance education courses around the world is done by print, Canadian colleges should look closely at what can be done with well-designed print packages supplemented by intermediate communication technology such as telephone-based systems before embarking on an expensive telecourse production project. Such simpler course systems are well within the resources and skills of most colleges.

Second, by sharing resources the consortium will be able to produce more courses in a shorter time for a lower cost per institution than if each institution acted independently. This proposition ignores the reality of extensive course variation among institutions and the vigour with which academic departments defend their right to design curriculum to meet local needs. Further, in a large consortium, sufficient compromises are necessary on

the curriculum for a given course that a search of the internationally available distance education course pool would reveal an existent course close enough to the compromise to be acceptable. Also, in designing a program that will satisfy enough members of the consortium, the project schedule will be a minimum of two to three times the time required for a standard course development project controlled by a single institution.

Third, it is assumed that consortium-developed courses will carry transferable credit within the consortium membership. How useful that is to students is debatable since interinstitutional credit transfer is now common and institutions wanting to expand their distance education course list could build a course list faster and at less cost by purchasing materials from other jurisdictions than developing new courses through a consortium. The obvious problem with acquisition of course materials from external sources is that the purchased materials will seldom match exactly any existing classroom courses. Should the college then add a new course to its calendar and program options, should it build a new program around the new distance education courses, should the new courses be non-credit, or should the courses be adapted to approximate existing credit classroom courses?

Finally, there is the argument that a consortium will allow the production of high quality instructional material for which there is a ready market. Before undertaking such an enterprise institutions should ask themselves three questions. If we are reluctant to buy course materials from other sources because the available courses do not quite fit our curriculum, why should other institutions rush to buy our proposed courses in large enough numbers to return our investment? Second, what has producing high cost courses for possible

resale to do with our prime responsibility of teaching students in our region? Third, how many effective but simpler distance education courses could be developed by our staff for the same expenditure of funds and time?

While there are some obvious advantages to cooperation and coordination among institutions the most fruitful areas lie in agreement to accept credit transfers, to trade courses, to cross-register students, to bank credits, to agree on institutional development specialization, to make joint purchases of courses, and to avoid unnecessary duplication.

A supplemental coordination issue is what should be the appropriate roles of regional colleges with any provincial distance education organization if one exists? Should the colleges abandon the distance education field, should the provincial organization act as a course development and acquisition broker for the colleges, should the colleges deliver but not develop distance education courses, should all the distance education operating colleges join with the provincial organization to form a multi-campus distance education system, or should all the organizations continue to run their own distance education operations for their own regions to the extent allowed by their budgets? Whatever model is selected, the demand for effective distance education courses will probably always exceed the college system's ability to provide service unless a radical change occurs in institutional philosophy regarding instructional methods, social equity, and institutional responsibility for off-campus students.

Instruction

Instruction in distance education courses is different from teaching students who can interact with an instructor in a classroom, and consequently,

classroom instructors need to learn new strategies for teaching at a distance. Most importantly, distance education teachers must be able to communicate clearly and unambiguously in print, anticipating as many potential student problems and questions as possible. Instructors who prepare distance education materials usually must share some of the instructional responsibility with other educational specialists--curriculum designers, editors, graphic artists, media technicians, and systems administrators. In addition, the privacy of the classroom is replaced by the public scrutiny of published materials by unknown individuals. Once the course materials are released they may be used by others in ways not anticipated by the original instructor. A major concern is whether or not most competent classroom instructors are capable of making the transition to distance education instruction without making a lot of expensive mistakes while they learn new techniques. What is simple to correct in a classroom may cost thousands of dollars and many weeks or months to correct in distance education materials, without considering the public embarrassment of the instructor and institution.

Instructors who have available to them a choice of communication technologies to supplement their printed materials usually must learn new visual and oral skills. What are the best ways to organize and run an audio teleconference? How do you make an audio recording that sounds as if the instructor is confident and speaking directly to the student? How can graphics improve the instructional message? How can instructors be warm and humourous without being trite and boring? How can instructors learn all the new techniques <u>and</u> create the course packages <u>and</u> teach their regular course load?

Besides all the personal concerns of the instructor, there is a series of technical organizational issues related mainly to academic standards and available instructional technology. If the institution is serious about offering distance education courses then it should be prepared to grant the same credit as for an on-campus course. Further, it should not be possible to tell from the course transcript whether the student had completed a distance education or a classroom course. If both modes of instruction have been competently handled by the instructor and both types of students successfully completed the course objectives, to label one mode as less worthy than the other is illogical. The consideration of standards and a requirement to make public course objectives and instructional rationales has caused many instructors to question why specific topics and practical exercises are positioned where they are in the curriculum or even why they are included in classroom courses. How does the course content and number of projects or laboratory exercises neatly fit into the number of weeks in the semester? What would happen if the semester length changed? Are there other ways of teaching to achieve the same course objectives? Are they the right objectives? As noted earlier, there are few courses that cannot be taught, at least in part, through distance education methods. The instructional design challenge is to find ways to maintain an acceptable academic standard while still providing for all or most of the instruction to be done free of campus and schedule requirements.

There is a widespread assumption that use of new communication technologies such as instructional television or computer assisted instruction will improve the quality of distance education instruction. Unfortunately, there are still no definite answers to questions of media effectiveness.

Analyses of extensive instructional media experiments and projects over the past 60 years have concluded that no significant advantage or disadvantage over classroom instruction can be conclusively demonstrated (Wilkinson, 1980, & Clark, 1983). The general recommendation to those considering using instructional media is to select the cheapest medium among those readily available as long as the instructional objectives can be met most of the time (Feasley, 1983). However, once an institution or province commits itself to a large capital investment for an instructional communication system there is a natural tendency to use the available system whenever possible even when simpler, more effective methods could have been used.

Current Technological Approaches to Distance Education in Community Colleges

Across the ten provinces, activity within the colleges with respect to distance education has been somewhat limited, although several factors are contributing to increased entrepreneurship in this area. In a period of financial restraint governments tend to selectively fund innovative programs which address new student needs, particularly for job preparation and upgrading, by cost effective methods. Distance learning methodology qualifies under such criteria.

A second factor in increased interest in distance education within the college sector is the availability of course material which is necessary to supplement new programs. Quality courses with a Canadian orientation, developed by Athabasca University, the Open Learning Institute, the Tele-Universite, University of Waterloo, Memorial University and by various provincial public and private agencies for TV Ontario, Sask Media, Knowledge

Network of the West, Access Alberta, and similar organizations, have created a substantial pool of resources which colleges can access.

While it is true that many of the present distance education formats are variations of "correspondence" type studies, using essentially print media, there is increasing supplementation through newer technology, teleconferencing, and utilization of resources in other institutions. Indeed, the notion of partnership with more specialized educational and private sector institutions does much to alleviate the constraints upon the colleges noted earlier.

It would be quite impossible and inappropriate to attempt to refer to all of the many and varied experiments in distance education currently found in Canada's community colleges. However, a few examples will provide a flavor of the activity.

The most notable case is North Island College on Vancouver Island, which has adopted an open learning methodology involving correspondence courses, mobile instructional resources, and a variety of technical support materials and delivery system. It is the only college in Canada which is totally committed to this approach, while largely avoiding the conventional college teaching model. In consequence, North Island's student profile is atypical, as is its teaching faculties.

Grant MacEwan College in Edmonton has developed two programs which involve a combination of formal distance instruction and clinical practice in established institutions. The programs, Nursing Upgrading and Extended Care Nursing, also include self-paced learning and extended admission times. Courses are either developed by Grant MacEwan or adapted from Athabasca University. Clinical practice is arranged in hospital settings near the

students' homes. Parenthetically, it is interesting to note that in distance education, Alberta's colleges appear to be developing program specialties as their emerging mandate, rather than focusing upon serving specified communities.

In Saskatchewan, community college policy is to adopt a "broker" role in which programs and courses from other institutions are made available through college facilities. Kelsey Institute in Saskatoon, for example, offers a Personal Development Worker Program by teleconferencing, part of which is brokered through Saskatoon Community College.

Recently the professional organization comprising continuing educators in Ontario produced a report on the state of distance education in Ontario's colleges (Knowles, 1985). While not all colleges participated in the study the results revealed a widely comprehensive involvement in the particular instructional methodology under review.

It was apparent that individual colleges were developing experience in specific subject and program areas regarding production, while delivery appeared to involve an impressive degree of cooperative effort. Programs ranged from opthalmic assistants, electronics and robotics, and emergency care to fashion design, early childhood education, travel courses and floral techniques.

Another feature of the Ontario scene was the creation of a large number of learning centres by colleges in which a variety of self paced learning programs were made available. Such centres reflect, as does the range and scope of distance learning activities, the ways in which Ontario colleges respond to the distinctly different needs of their community.

For example, Confederation College in Thunder Bay serves an area of 235,000 square miles with a population of 200,000 in 92 centres. Since 1977 Confederation has provided outreach activities which involve the creation of resource centres in hospitals, libraries and private industry. The centres are used by students to access video and audio tapes and print material. Arrangements are made for students to teleconference with instructors at the college to review their progress and discuss subject matter. The teleconference material remains on tape for use by students unable to attend the resource centre (Scharf, 1983).

With respect to cooperative activities, many smaller colleges draw upon the resources produced by the major centres for the production of learning packages, such as Seneca and Humber Colleges, although cooperative efforts among geographic groups of institutions are also evident.

Colleges view the direct cooperation of T.V. Ontario in the delivery of programs as a goal which is yet to be fully realized. In this context it is also interesting to note that Ryerson, although not a community college, has created an affiliate, the Open College, with an FM radio outlet which offers courses through three delivery modes, the radio, audio - cassettes and traditional correspondence. The Open College provides another resource for delivery of programs upon which colleges may well draw.

Concluding Comment

Despite a number of inherent problems, community colleges in Canada are adopting distance education strategies consistent with their mandates and realistic in scope with regard for the resources at their disposal. Given the limited population constituencies to which most colleges are responsible,

program development and delivery on a comprehensive scale by all colleges is hardly feasible on either financial or upon a student population basis.

However, entrepreneurship in program delivery has become a significant challenge in the 1980s and colleges are beginning to recognize the advantages of cooperative endeavours with other institutions and with the business - industrial sector. Furthermore, advances in technology and in the development of portable equipment for practical components of courses have done much to reduce costs and further diversify program and course offerings. With imminent technological innovations, such as the use of fiber optics, extensive resources for learning will be accessible by a widening population. Colleges must, and will capitalize on such resources.

Furthermore, it has become appropriate that governments display initiative in the coordination, management and delivery of distance learning both as the custodian of the education dollar and in its responsibility for the monitoring of new communications technology, such as the satellites and cable systems. Community colleges must however play an important role in any management systems which are created. Their contribution will be significant, albeit controlled, and consistent with their role.

Colleges were created to serve a learning society well beyond those who had been the privileged participants of the past. Despite their efforts, through open admissions, decentralized campuses, evening and weekend scheduling and extensive curricula offerings, the colleges have failed to accommodate a not inconsiderable segment of the community who cannot, or prefer not to utilize face-to-face instructional arrangements. Open learning, a concept which implies the creation of learning opportunities based upon individual

student needs and living conditions, constitutes a challenge which cannot be ignored. Despite an uncertain financial future, the colleges must meet this challenge and, in doing so, will surely change the character of their teaching-learning resources.

Distance education, perhaps modified, but in creative formats under imaginative and cooperative planning, and with the assistance of sophisticated technology available now and in the future, will assuredly become a regular supplement, or even an alternative, to classroom instruction in the educational future of Canada's colleges.

NOTES

1. The titles "Technical Institute" and "Community College" do not connote consistency in mandate or organization. Manitoba's "community" colleges, for example, are provincially governed institutions with a heavy vocational emphasis.
2. The numbers quoted here refer to public community colleges in the more restrictive use of the term. They do not include technical institutes or private colleges, as in Quebec.
3. Several articles on this theme appear in College Canada, January-February 1983.
4. A number of papers by Denis Wing appear in the Proceedings of the Outreach Seminar, noted in the bibliography.
5. The Open Learning Institute does not meet the criteria for a community college, as argued in this paper. However, an excellent analysis of the development of the OLI appears in Ellis and Mugridge (1983).

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